Bozeman Municipal Watershed Fuels Reduction Project Executive Summary of the Record of Decision

1 Introduction

The Bozeman Municipal Watershed Fuels Reduction Project is located in the northern Gallatin mountain range near the city of Bozeman, Montana. Fuel reduction treatments will occur on about 4,700 acres in the 50,000 acre project area. The project area is focused in the lower one-third of Bozeman Creek and Hyalite Creek drainages. A portion of the Gallatin Fringe Inventoried Roadless Area is in the project area. The entire project area is considered wildland urban interface (WUI), with many homes and subdivisions within one-half mile of the Forest boundary. The area provides over the majority of the municipal water supply for the city of Bozeman. The water treatment plant is located just outside the Forest boundary on Bozeman Creek.

2 Background

On March 11, 2005, the Forest Service and the City of Bozeman signed a Memorandum of Understanding to maintain a high-quality, predictable water supply for Bozeman. Three different assessments conducted by the Forest Service, the Bozeman Creek Watershed Council, and the City of Bozeman all concluded that fuel conditions within the municipal watershed posed risks to the municipal water supply in the event of a wildfire.

The Gallatin National Forest first sought public comments on this project in September 2005. The Draft Environmental Impact Statement (EIS) was published in August 2007, and analyzed five alternatives. A sixth alternative was added and analyzed in the Final EIS.

The Final EIS was published in March 2010 and a supplement to the FEIS was provided for public review in May 2011. The Final Supplement with a response to comments was published in November 2011 and a Record of Decision was signed in November 2011.

3 Purpose and Need for Action

The purpose of this project is to reduce the risk of severe and extensive wildfire on National Forest System lands within the BMW, thereby reducing risk to life and property in and adjacent to the project area. The project also responds to policies directing the Forest Service to take action to protect municipal watersheds and wildland urban interface (WUI) areas from wildfire (e.g., National Fire Plan of 2000, Healthy Forests Initiatives of 2004, Healthy Forests Restoration Act 2004).

- **Protection of the Municipal Water Supply for Bozeman.** The project will begin to modify vegetative fuel conditions using thinning and prescribed fire to lower the risk of severe, extensive wildfires in the BMW, thereby reducing the risk of excess sediment and ash reaching the municipal water treatment plant. A large or severe wildfire in the Hyalite and Bozeman watersheds could result in a loss of water supply to Bozeman lasting from a few days to several weeks.
- **Reduce Fuels Along Road Corridors to Provide Safer Conditions for Fire Fighting and Evacuations in the Event of a Wildfire.** The primary roads in both drainages, heavily used by the recreating public, are one-way routes during an emergency.

- **Reduce the Risk of High Intensity Wildfire Spreading From Forest Service Lands onto Private Lands that Border these Watersheds.** The entire analysis area is delineated as WUI. Fuels reduction in the WUI will improve the chances of successful control and suppression of wildfires, which produce the embers and firebrands that are the primary cause of home ignition.

4 Proposed Action

Reduce potential fire severity and extent by reducing the density and/or continuity of overstory and understory forest vegetation. Maintain existing meadows and natural openings through use of prescribed fire. Specific proposed treatments are described below.

- **Thinning and partial harvest in mature timber stands.** Treatments include mechanical and hand thinning. Yarding systems include tractor, skyline (cable), and helicopter. Treatments will reduce fuel loads, total crown density and ladder fuels, and surface fuels. About 50 percent of the existing tree canopy within a unit would be removed. Fuels will be burned at specific landings or removed as biomass; where this isn't possible, fuels will be removed by piling and burning, jackpot burning, or understory burning.
- **Shaded fuel breaks.** Where thinning units contain ridgelines important for fire suppression, 60-70 feet will be left between tree trunks.
- **Thinning in previously harvested small diameter stands.** Mechanical or hand thinning will be used in these areas. If markets allow, some commercial products such as post and poles or biomass may be removed.
- **Prescribed burning in thinned stands.** Broadcast burning or burning of piles will take place after thinning to further reduce ground fuels.
- **Prescribed burning.** Where units have natural openings or sparse tree cover, prescribed burning will be used.

5 Decision, Issues, and Alternatives Considered

5.1 Decision and Rationale

The decision for the Bozeman Municipal Watershed Project is to implement a modified Alternative 6 with its associated mitigation and monitoring commitments. This alternative was developed between the Draft and Final EIS to respond to public comments and address evolving economic realities. Alternative 6 reduces the amount of helicopter harvest and the level of mechanical treatment in the Gallatin Fringe Inventoried Roadless Area (IRA) in response to public comments and financial limitations. This alternative was designed to meet the purpose and need in a manner that is less costly, and thus more realistic in terms of being able to secure the funding to complete the work. The modifications in my decision from Alternative 6 include eliminating a prescribed burning unit (#22C) and expanding water quality mitigation and monitoring. Alternative 6 and the decision weigh the short term effects from implementation against the long-term benefits that would be realized by this project.

The Importance of Protecting Community Water Supply

The importance of clean municipal water in the long term was the most important consideration in this decision. The perspectives of the City of Bozeman heavily influenced the decision to select Alternative 6 and the decision complements the plans the City is developing for fuel reduction treatments on city properties in the Bozeman Creek drainage.

Sedimentation Concerns From Our Actions or No Action
As noted in the Final EIS, modeling for these two drainages showed that a wildfire in average humidity and wind conditions could generate an increase in sediment of 250 percent over natural conditions. A wildfire in more extreme weather conditions would cause even higher increases.

Vegetation treatments in Alternative 6 are expected to reduce potential fire size by 54 percent when a wildfire occurs in the project area. Models showed that a 4,000 acre fire in the project area after implementation of Alternative 6 would likely increase sediment by only 30 percent above natural sedimentation levels in the Hyalite Creek drainage, and 54 percent in the Bozeman Creek drainage. The same size fire, if it were to occur pre-treatment, would produce sediment increases of 54 percent and 105 percent in those same drainages, respectively. This analysis convinced the Forest Supervisor that Alternative 6 will be effective in meeting the purpose and need, and that the No Action alternative is not acceptable when the majority of a community's water supply is at stake. The City of Bozeman has verified that the amount of sediment produced in the implementation of Alternative 6 will not adversely affect the water treatment facilities and their ability to supply domestic water for Bozeman residents.

Economic Realities, Helicopter Yarding, and Addressing Purpose and Need
In today's depressed timber market and with the high cost of fuel, there is a high cost associated with the use of a helicopter for removing logs. As disclosed in the Final EIS, this cost is justified in some areas because of the benefits related to scenery and water quality. For this reason, Alternative 6 retains helicopter-yarded units in these key areas, in addition to a mix of prescribed burning and mechanical treatments. In the event that the timber market recovers enough to substantially reduce the cost of helicopter use, the decision includes the flexibility to use helicopters rather than skyline yarding to treat some units identified in Alternative 6.

To compensate for the loss of overall treated acres relative to Alternative 5, Alternative 6 includes fuel breaks on ridgelines to serve as important fire suppression control points.

Roadless Area Values
Alternative 6 was developed in part to respond to public comments and concerns about treatments within the Gallatin Fringe IRA. This alternative reduces the number of acres to be treated mechanically by one-third from Alternative 5 (from over 600 to 200 acres), and increases the number of acres to be prescribed burned (from over 900 to over 1,300 acres). The treatments in the IRA are near the boundary with private land, near the city's water facilities, and in areas where dense vegetation makes it difficult to conduct a prescribed burn. No road construction will occur in the IRA.

Need for a Forest Plan Amendment
Alternative 6 includes four treatment units totaling 300 acres that will not meet the Forest Plan scenery standard of Partial Retention in the short term. The trees in these units, which can be seen from various viewpoints between Bozeman and the National Forest boundary, will be yarded with a skyline or cable system. These systems can leave pathways that, until they re-establish vegetation, can appear as unnatural corridors. Should the economy improve, the decision retains the option of using helicopters to treat these areas to reduce the visual impacts.

5.2 Consideration of the Issues

Implementing Alternative 6 represents a balance between the purpose and need of the project, an evaluation of short-term and long-term risks, and the need to protect. Below is a list of the issues analyzed in the EIS.

- Fire and Fuels
- Water Quality
- Fisheries
- Scenery
- Inventoried Roadless Lands
- Recreation
- Air Quality
- Forest Vegetation
- Wildlife and Wildlife Habitat
- Snags
- Soils
- Weeds
- Economics

5.3 Action Alternatives Studied in Detail

Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Prescribed burning – no pre-thinning	850 acres	1,100 acres	3,982 acres	950 acres	1,575 acres
Mechanical and hand cutting, thinning, and piling of young trees	1,150 acres	1,150 acres	1,250 acres	1,150 acres	1,100 acres
Partial harvest and % by harvest system	1,926 acres ground based (23%) skyline (32%) helicopter (45%)	3,600 acres	0	3,700 acres ground based (21%) skyline (12%) helicopter (67%)	2,045 acres ground based (37%) skyline (24%) helicopter (39%)
Forest Plan amendment for visuals	Yes	Yes	No	Yes	Yes
Temporary road construction	7.2 miles	13.5 miles	0	6.9 miles	7.1 miles
Re-opening existing roads	3 miles	5.4 miles	0	1.7 miles	1.7 miles
Activities within Gallatin Fringe IRA	• 460 acres helicopter partial cutting • 680 acres prescribed burning	• 740 acres helicopter partial cutting • 890 acres prescribed burning	• 0 acres helicopter partial cutting • 1,140 acres prescribed burning	• 660 acres helicopter partial cutting • 940 acres prescribed burning	• 220 acres helicopter partial cutting • 1,330 acres prescribed burning

- **Alternative 1, No Action.** No fuels reduction activities would be implemented.
- **Alternative 2, Proposed Action**. A more detailed version of the proposed action presented to the public during scoping in 2005. Reflects priority treatment areas and one treatment scenario to address the purpose and need.
- **Alternative 3.** Designed to achieve the desired conditions more aggressively than Alternative 2.
- **Alternative 4, No Logging/Prescribed Burning.** Combines an effort to meet purpose and need without thinning large trees using logging methods. This is the agency response to the request received during scoping to consider an alternative limited only to prescribed burning with no additional road building.
- **Alternative 5, Preferred in Draft EIS**. Designed to mitigate impacts to scenery, watershed, and westslope cutthroat trout. Incorporates additional treatment areas in and near the WUI.
- **Alternative 6, Selected in Final EIS.** Developed after interdisciplinary team reviewed public comments and further economic analysis was completed.

5.4 Alternatives Considered but not Studied in Detail

- **Scoping Alternative.** This was the original proposal the Forest Service presented during scoping, containing broad descriptions of treatment areas and treatment types. Alternative 2 is a more detailed description of this conceptual alternative.
- **Water Treatment Facility Improvements Alternative.** This alternative focused mitigation on City facilities themselves rather than treatments on National Forest System lands. Recommendations such as building sediment traps and upgrading the treatment plant were shared with the City of Bozeman, but as these options are not within the decision authority of the Forest Service, this is not a viable alternative.
- **Wildland Fire Use Alternative.** This alternative considers using natural fire ignitions to achieve the project's purpose and need. Managing fire for resource benefits in this area would be outweighed by the risks posed by having fire in a municipal watershed bordered by subdivisions and which received heavy recreation use. The planned ignition portion of this alternative is included within the alternatives in the EIS.
- **Wildland Urban Interface/Homes Alternative.** Consider fuel reduction treatments only in the WUI immediately around homes. This alternative did not meet the purpose and need to reduce fire risk to the municipal watershed and protection of water treatment facilities.
- **Climate Change.** Comments were received requesting an alternative that addressed the impacts of the proposal on climate change. However, meaningful and relevant conclusions on the effects of a relatively minor land management action such as this on global greenhouse gas emissions or global climate change is neither possible nor warranted in this case. The affected forests will remain forests, not converted to other land uses, and long-term forest services and benefits will be maintained.

6 Public Involvement

A public scoping document was sent to agencies and interested individuals on September 19, 2005. This document described the project and identified some preliminary issues. Twenty-nine comments were received in response to the Notice of Intent for this project, published in the Federal Register on October 18, 2005, which asked for public comments. The Forest Service worked closely with the City of Bozeman in developing the purpose and need.

After release of the Draft EIS (August 2007), an open house and two public tours of the project area were held. The Forest Service received 43 letters from agencies, organizations, groups,

and individuals. The Forest briefed the Bozeman City Commissioners and continued working closely with City of Bozeman staff. Another field trip was held in August 2009 for city staff and interested members of the public. Another public involvement opportunity was provided with the publication of a supplement to the FEIS. Appendix C of the Final EIS, Appendix B of the Supplemental FEIS and page 45 of the Record of Decision contain a summary of public comments and the Forest Service responses to the comments.

7 Determination of Non-significant Forest Plan Amendment

Alternative 6 includes a site-specific Forest Plan amendment to modify the visual quality standards in the short term for some project units. The only way to economically treat these units and help meet the purpose and need is to use cable logging. The locations of these units are on slopes highly visible from the Gallatin Valley. Cable drag corridors tend to appear unnatural, especially when there is snow on the ground.

This site-specific amendment is not significant, as outlined in Forest Service Handbook 1926.51. This amendment modifies these standards only for this time and place.

8 Findings Required by Other Laws, Regulations, and Policies

This decision is in compliance with the applicable federal laws and Forest Service regulations and policies listed below.

- National Forest Management Act of 1976
- National Environmental Policy Act (NEPA) (of 1969) as amended
- Endangered Species Act of 1973
- Migratory Bird Treaty Act
- Environmental Justice (E.O. 12898)
- National Historic Preservation Act
- Clean Air Act
- Clean Water Act
- Gallatin National Forest Land and Resource Management Plan (Forest Plan)
- Forest Service Manual (FSM) 5150 Fuel Management Policy

9 Implementation

Implementation of the project is expected to begin in 2012 and is expected to take three to five years to complete.

10 Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Teri Seth, Team Leader, Bozeman Ranger District, Gallatin National Forest, 3710 Fallon, Bozeman, MT, 59718, (406) 522-2520.